UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/555,408	11/01/2005	Ahmed El-Sayed Ahmed	2847-72452-01	9403

24197   7590   04/09/2009
KLARQUIST SPARKMAN, LLP
121 SW SALMON STREET
SUITE 1600
PORTLAND, OR 97204

EXAMINER
KANAAN, SIMON P

ART UNIT	PAPER NUMBER
2432	

MAIL DATE	DELIVERY MODE
04/09/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2009*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-12,14 and 19-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-12,14 and 19-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to applicant's amendment filed on February, 3, 2009 for

Application No. 10/555408.

2.   Claims 1-5, 7-12, 14, and 19-22 are pending in this application.

3.   Claims 1, 2, 4, 7, 9, 11, 12, and 14 are amended by applicant's amendment.

4.   Claims 6, 13, and 15-18 are canceled by applicant's amendment.

5.   Claims 19-22 are new by applicant's amendment.

Applicant's Arguments

6.   Applicant's arguments/ amendments with respect to pending claim 2 filed on February, 3,

2009, overcomes the claim objection and therefore the objection is withdrawn.

7.   Applicant's arguments/ amendments with respect to pending claims 1-5, 7-12, 14, and

19-22 filed February, 3, 2009, have been fully considered but are moot in view of new grounds

of rejection necessitated by the amendments.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   Claims 1, 2, 9, 10, 11, 12 and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable by Brown et al. (U S Patent Number 5,557,686) in view of Odom (US Patent #

7350078 B1)

        As per claim 1, Brown discloses: a behavioral biometrics based user verification system

for use with an input device, said system comprising a data interception unit for receiving inputs

from a user, *(Brown, column 2 lines 15-19, collecting samples containing typing characteristics*

of an authorized user based on key press times and key release times is a behavioral biometrics

based system which intercepts data from a user), a behavior analysis unit operatively coupled to

said data interception unit *(Brown, column 2 lines 20-22, vectors constructed for purifying the*

samples are behavioral analysis units since they contain behavioral data), and a behavior

comparison unit operatively coupled to said interception unit, wherein said system translates

behavioral biometrics information into representative data. *(Brown, column2 lines 28-29, the*

neural network trained to output whether an input is from an authorized user is representative

data of biometric information), stores and compares different results, and outputs a user identity

result *(Brown, column 2 lines 30-32 and 38-38, the user typing the previously determined*

keystroke sequence into the neural network then having the neural network determine whether

the user is authorized, is storing and comparing the different results and outputting the user

identity result).

        But fails to disclose expressly the input device is a mouse and "wherein the data

interception unit is configured to passively collect mouse data generated in response to the user;"

        However, Odom discloses that the input device is a mouse and "wherein the data

interception unit is configured to passively collect mouse data generated in response to the user;"

(Odom, column 4, lines 31-46, data input unit is a mouse which passively collects mouse movement data)

Brown and Odom are analogous art because they are from the same field of endeavor of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the passively collecting mouse movement data method of Odom with the behavioral biometric based system of Brown because having a passive authentication method makes theft more difficult and less likely *(Odom, column 1, lines 44, 48).*

As per claim 2, Brown in view of Odom discloses: The user verification system of claim 1, wherein said system is suitably configured for real-time monitoring (*Brown,* column 13 lines 52-55, system notifying a system operator that user has not passed keystroke is real-time monitoring).

As per claim 9, Brown discloses: A method of characterizing a user comprising the steps of moving motion based input device, dynamically monitoring and passively collecting behavioral biometric information from input device, *(Brown, column 2 lines 15-19, a keyboard is a motion-based input device which is used to collect data),* a processing said passively collected behavioral biometric information, *(Brown column 2 lines 20-22, vectors constructed for purifying the samples are behavioral analysis units since they contain behavioral data and column2 lines 28-29, the neural network trained to output whether an input is from an authorized user is representative data of biometric information),* developing a signature for a

user based on the processed information *(Brown column 2 lines 30-32 and 38-38, the user typing the previously determined keystroke sequence into the neural network then having the neural network determine whether the user is authorized is a model of users signature)*.

But fails to disclose expressly that the input device is a mouse.

However, Odom discloses that the input device is a mouse *(column 4, data input unit is a mouse which passively collects mouse movement data)*

Brown and Odom are analogous art because they are from the same field of endeavor of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the passively collecting mouse movement data method of Odom with the behavioral biometric based system of Brown because having a passive authentication method makes theft more difficult and less likely *(Odom, column 1, lines 44, 48)*.

As per claim 10, Brown in view of Odom discloses: The method of claim 9, further comprising comparing said signature with a signature of an authorized user *(Brown, column 2 lines 30-32 and 38-38, the user typing the previously determined keystroke sequence into the neural network then having the neural network determine whether the user is authorized is a model of users signature)*.

As per claim 11, Brown in view of Odom discloses: The method of claim 10, further comprising filtering said data after processing and before developing the signature to reduce

noise *(Brown, column 4 lines 30-35, purifying users input files is filtering the processed data before modeling and reduces noise.)*.

As per claim 12, Brown in view of Odom discloses: The method of any one of claims 11, further comprising collecting and processing and developing the signature in real-time *(Brown, column 14 lines 7-18, continuously updating the users profile with new samples is a method which collects, processes and models data in real-time, modeling the data is the user signature)*.

As per claim 19, Brown in view of Odom The system of claim 1, wherein the behavior comparison unit is configured to store user identities for a plurality of potential users, and the user identity result identifies the user from among the plurality of potential users. *(Odom, column 12, lines 24-31, plurality of signatures stored for a plurality of users)*

10.   Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Odom in further view of Boebert et al. (US Patent Number 5,596,718).

As per claim 3, Brown in view of Odom discloses: the limitations of claim 2

But fails to disclose expressly: further comprising secure communication protocols operatively couple to said data interception unit.

Boebert discloses: "further comprising secure communication protocols operatively couple to said data interception unit"; *(Boebert, column 3 lines 26-29, an inserted trusted path between input/output devices and work station is a secure communication protocol between the system and data interception)*.

Brown and Boebert are analogous art because they are from the same field of endeavor of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the secure communication between input device and system of Boebert with the behavioral biometric based system of Brown because it would deter malicious hard ware or software from emulating and listening to the communication path between the user and system *(Boebert, column 1 lines 30-35).*

11.   Claims 4, 5, 7, 8, 14, 20, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Odom and in further view of Akiyama et al. (US Patent Number 5,768,387).

As per claim 4 and 22, Brown in view of Odom discloses: the limitations of claim 1 and 9 respectively, wherein said data interception unit is configured to identify data based on mouse movement and is not associated with a mouse click" *(Odom, column 4, data input unit is a mouse which passively collects mouse movement data)*

But fails to disclose expressly "wherein said data interception unit is configured to identify data based on mouse movement between first and second locations, wherein movement between the first and second locations is not associated with a mouse click"

Akiyama discloses: "wherein said data interception unit is configured to identify data based on mouse movement between first and second locations, wherein movement between the first and second locations is not associated with a mouse click" *(Akiyama, figure 8 and column*

11 lines 42-46, the input device is a mouse and the tracks of the mouse movement are detected,

tracks are the path of the mouse and hence are the direction of movement.)

Brown and Akiyama are analogous art because they are from the same field of endeavor

of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the teaching of Brown with the teaching of Akiyama in order to provide input devices

as a keyboard or a mouse, or both as pointed out in Akiyama. *(Akiyama, column 11 lines 39-41,*

input devices can be keyboard and mouse)

As per claim 5, Brown in view of Odom and further in view of Akiyama discloses: the

limitations of claim 4, "wherein said data interception unit is further configured to characterize

movement based on at least one of average speed, average traveled distance, and direction of

movement." *(Akiyama, figure 8 and column 11 lines 42-46, the input device is a mouse and the*

tracks of the mouse movement are detected, tracks are the path of the mouse and hence are the

direction of movement).

As per claim 7, Brown in view of Odom discloses: the limitations of claim 1,

 But fails to disclose expressly "wherein said data interception unit is further configured

to identify action from a mouse as one of drag and drop, point and click, mouse movement, and

silence, such that in use, said system receives data from a mouse"

Akiyama discloses: "wherein said data interception unit is further configured to identify

action from a mouse as one of drag and drop, point and click, mouse movement, and silence,

such that in use, said system receives data from a mouse" *(Akiyama, figure 8 and column 11*

lines 42-46, the input device is a mouse and the tracks of the mouse movement are detected,

tracks are the path of the mouse and hence are the direction of movement.)

Brown and Akiyama are analogous art because they are from the same field of endeavor

of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the teaching of Brown with the teaching of Akiyama in order to provide input devices

as a keyboard or a mouse, or both as pointed out in Akiyama. *(Akiyama, column 11 lines 39-41,*

input devices can be keyboard and mouse)

As per claim 8, Brown in view of Odom and further in view of Akiyama discloses: the

limitations of claim 1 but fails to disclose expressly the limitation in claim 7, "wherein said data

interception unit is further configured to characterize movement based on at least one of average

speed, average traveled distance, and direction of movement. *(Akiyama, figure 8 and column 11*

lines 42-46, the input device is a mouse and the tracks of the mouse movement are detected,

tracks are the path of the mouse and hence are the direction of movement).

As per claims 14, Brown in view of Odom discloses: the limitations of claim 9,

But fails to disclose expressly: "wherein said collecting data further comprises

characterizing movement based on at least one of average speed, average traveled distance, and

direction of movement"

Akiyama discloses: "wherein said collecting data further comprises characterizing movement based on at least one of average speed, average traveled distance, and direction of movement" *(Akiyama, figure 8 and column 11 lines 42-46, the input device is a mouse and the tracks of the mouse movement are detected, tracks are the path of the mouse and hence are the direction of movement).*

Brown and Akiyama are analogous art because they are from the same field of endeavor of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Brown with the teaching of Akiyama in order to provide input devices as a keyboard or a mouse, or both as pointed out in Akiyama. *(Akiyama, column 11 lines 39-41, input devices can be keyboard and mouse)*

As per claims 20, Brown in view of Odom discloses the system of claim 1,

But fails to disclose expressly "wherein the behavior comparison unit is configured to produce the user identity result based on mouse movement speed compared to traveled distance, average speed per direction of movement, a distribution of movement directions, average speed with respect to action type, a distribution of actions, a distribution of traveled distance, and a distribution of movement elapsed time."

Akiyama discloses "wherein the behavior comparison unit is configured to produce the user identity result based on mouse movement speed compared to traveled distance, average speed per direction of movement, a distribution of movement directions, average speed with respect to action type, a distribution of actions, a distribution of traveled distance, and a

distribution of movement elapsed time." *(Akiyama, figure 8 and column 11 lines 42-46, the input*

device is a mouse and the tracks of the mouse movement are detected, tracks are the path of the

mouse and hence are the direction of movement, It would be obvious for one skilled in the art at

the time of the invention to use any combination calculations related to the mouse movement and

a factor).

Brown and Akiyama are analogous art because they are from the same field of endeavor

of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the teaching of Brown with the teaching of Akiyama in order to provide input devices

as a keyboard or a mouse, or both as pointed out in Akiyama. *(Akiyama, column 11 lines 39-41,*

input devices can be keyboard and mouse)

As per claim 21, Brown in view of Odom discloses the method of claim 9,

But fails to disclose expressly "wherein the signature for the user is developed based on

movement speed compared to traveled distance, average speed per direction of movement,

distribution of movement directions, average speed with respect to action type, a distribution of

actions, a distribution of traveled distance, and a distribution of movement elapsed time."

Akiyama discloses "wherein the signature for the user is developed based on movement

speed compared to traveled distance, average speed per direction of movement, distribution of

movement directions, average speed with respect to action type, a distribution of actions, a

distribution of traveled distance, and a distribution of movement elapsed time." *(Akiyama, figure*

8 and column 11 lines 42-46, the input device is a mouse and the tracks of the mouse movement

are detected, tracks are the path of the mouse and hence are the direction of movement, It would

be obvious for one skilled in the art at the time of the invention to use any combination

calculations related to the mouse movement and a factor).

Brown and Akiyama are analogous art because they are from the same field of endeavor

of computer authentication.

It would have been obvious to one of ordinary skill in the art at the time of the invention

to modify the teaching of Brown with the teaching of Akiyama in order to provide input devices

as a keyboard or a mouse, or both as pointed out in Akiyama. *(Akiyama, column 11 lines 39-41,*

input devices can be keyboard and mouse)

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

9.   A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to SIMON KANAAN whose telephone number is (571)270-3906. The examiner can normally be reached on Mon-Thurs 7:30-5:00 EST.

11.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SIMON KANAAN/
Examiner, Art Unit 2432

/Gilberto Barron Jr./
Supervisory Patent Examiner, Art Unit 2432